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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,142	08/28/2001	Jeffrey Meng Wah Chan	004-2628-1	7123

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ZAGORIN O'BRIEN GRAHAM LLP
7600B N. CAPITAL OF TEXAS HWY.
SUITE 350
AUSTIN, TX 78731

EXAMINER

HUISMAN, DAVID J

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No.

09/941,142

Applicant(s)

WAH CHAN ET AL.

Examiner

David J. Huisman

Art Unit

2183

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 25 July 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: _____.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.


REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
see attached sheet.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☐ Other: _____.

Applicant argues the rejection of claim 21 on page 3 of the remarks, in substance that:

"The examiner asserts that the locking disclosed in Barlow can be characterized as speculative, because the system speculates that a hazard will occur. This characterization has no basis in Barlow. Applicant requests identification of the section of Barlow that supports the Examiner's assertion that Barlow locks a resource based on speculation that a hazard may occur with the resource."

The examiner believes that the proof that "speculative" locking occurs within Barlow lies within the reason for locking itself. More specifically, one should ask "What is the purpose of locking resources and why is it done?" Column 1, lines 38-64, give some background on this topic by explaining that in multiprocessor systems, processing units share memory resources. One such resource is an actual memory location that is read, modified, and written to by the processing units. Barlow inherently refers to RAW hazards (without explicitly saying "RAW"), which are well-known types of hazards in the art. A RAW hazard exists when a subsequent instruction reads a memory location which has not yet been written to by a preceding instruction, thereby causing the subsequent instruction to use incorrect data in its operation. This hazard is the reason why memory locations are locked in Barlow. More specifically, when a preceding instruction is to read, modify, and write to a memory location, a subsequent instruction should not have access to (should not read from) the memory location until it is written to by that preceding instruction. Consequently, the memory location is locked by the preceding instruction to ensure that the subsequent instruction does not improperly access the location and operate with the wrong data. Clearly, the purpose of the locking is to prevent a RAW data hazard. If instructions were able to operate with incorrect data, then this locking would not be required. However, this would violate the fundamental ideas behind program execution. In the system of Barlow, a resource is locked in order to prevent a data hazard, even if one doesn't actually exist. That is, there may or may not be a subsequent instruction which reads a memory location that is to be written to by a preceding instruction. Hence, this locking is speculative because the system speculates that a hazard will exist, i.e., it must lock just in case a hazard exists. In addition, it should be realized that every time a read-modify-write (RMW) operation is to be performed, locking must occur in case a hazard does exist. Locking occurs every time because the system does not have advanced knowledge of where the hazard exists.



EDDIE CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100